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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/002,186	12/05/2001	Richard Roy Grisenthwaite	550-270	2972

7590   04/21/2004

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EXAMINER
KNOLL, CLIFFORD H

ART UNIT	PAPER NUMBER
2112	𝓗

DATE MAILED: 04/21/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.		Applicant(s)
Office Action Summary	10/002,186		GRISENTHWAITE, RICHARD RO
	Examiner		**Art Unit**
	Clifford H Knoll		2112

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>24 January 2002</u>.

2a)☐ This action is **FINAL.**   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-18</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-18</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☒ All   b)☐ Some * c)☐ None of:

      1.☒ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>3</u>.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____ .

DETAILED ACTION

Claim Rejections - 35 USC § 102

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-18 are rejected under 35 U.S.C. 102(b) as being anticipated by Baror

(US 5136691).

Regarding claims 1 and 18, Baror discloses retrieving a semaphore value corresponding to a processing resource from a semaphore value store and storing semaphore identifying data indicative of which semaphore value has been retrieved (e.g., col. 39, lines 6-11), determining from said semaphore value whether or not said processing resource is available for exclusive access by a requesting exclusive access requester, and writing a new semaphore value to said semaphore value store, said new semaphore value being indicative of exclusive access being granted to said exclusive access requester (e.g., col. 49, lines 39-56); wherein (v) in response to execution of an exclusive access clear instruction by an exclusive access requester, clearing stored semaphore identifying data for said exclusive access requester (e.g., col. 50, lines 1-4).

Regarding claim 2, Baror also discloses wherein said step of writing a new semaphore value returns a result value indicative of whether or not said new semaphore value was written in said semaphore value store (e.g., col. 49, lines 30-32).

Regarding claim 3, Baror also discloses if a different exclusive access requester has written a new semaphore value to said semaphore value store between said step of retrieving and said step of writing, then said result value indicates that said write of a new semaphore value by said exclusive access requester has failed (e.g., col. 49, lines 30-32).

Regarding claim 4, Baror also discloses wherein said step of writing also checks said semaphore identifying data to determine whether or not said semaphore identifying data has been cleared between said step of retrieving and said step of writing (e.g., col. 49, lines 63-65).

Regarding claim 5, Baror also discloses if said semaphore identifying data has been cleared, then writing of said new semaphore value is not attempted (e.g., col. 49, lines 30-32).

Regarding claim 6, Baror also discloses wherein a plurality of data processors share said processing resource (e.g., col. 39, lines 6-11).

Regarding claim 7, Baror also discloses wherein said plurality of data processors share at least a common access point via which accesses to said processing resource are made (e.g., col. 39, lines 6-11).

Regarding claim 8, Baror also discloses wherein a local semaphore identifying data store is provided local to said exclusive access requester (e.g., col. 49, lines 61-63).

Regarding claim 9, Baror also discloses wherein a write attempt does not reach said common access point if said semaphore identifying value stored in said local semaphore identifying data store has been cleared (e.g., col. 49, lines 63-65).

Regarding claim 10, Baror also discloses wherein a shared semaphore identifying data store is provided local to said processing resource (e.g., col. 49, lines 61-63).

Regarding claim 11, Baror also discloses wherein multitasking processing is performed such that different processing tasks may act as different exclusive access requesters (e.g., col. 26, lines 14-15).

Regarding claim 12, Baror also discloses wherein said exclusive access clear instruction clears said local semaphore identifying data store, but not said shared semaphore identifying data store, and said semaphore identifying data within said local semaphore identifying data store is checked to determine whether or not said semaphore identifying data has been cleared between said step of retrieving and said step of writing (e.g., col. 39, lines 4, "cacheable").

Regarding claim 13, Baror also discloses wherein said processing resource is a data element stored within a data memory (e.g., col. 39, line 6).

Regarding claim 14, Baror also discloses wherein an exclusive access clear instruction is executed upon occurrence of one or more of: (i) an exception triggering

exception handling; and (ii) a context switch between different tasks within multitasking operation. (e.g., col. 44, lines 28-30).

Regarding claim 15, Baror also discloses wherein said semaphore identifying data is data indicative of a memory address associated with said processing resource (e.g., col. 39, lines 4, "cacheable").

Regarding claim 16, Baror also discloses wherein said shared semaphore identifying data store stores data indicative of which processor is requesting exclusive access to said processing resource (e.g., col. 10, lines 44-53).

Regarding claim 17, Baror discloses a computer program product carrying a computer program for controlling a data processing apparatus in accordance with the method of claims 1 (e.g., col. 1, lines 67-68).

Claims 1-13 and 15-18 are rejected under 35 U.S.C. 102(e) as being anticipated by Moriarty (US 6446149).

Regarding claims 1 and 18, Moriarty discloses retrieving a semaphore value corresponding to a processing resource from a semaphore value store storing semaphore identifying data indicative of which semaphore value has been retrieved (e.g., col. 4, lines 43-45), determining from said semaphore value whether or not said processing resource is available for exclusive access by a requesting exclusive access requester (e.g., col. 9, lines 26-29); and writing a new semaphore value to said semaphore value store, said new semaphore value being indicative of exclusive access being granted to said exclusive access requester (e.g., col. 9, lines 26-29); wherein (v)

in response to execution of an exclusive access clear instruction by an exclusive access requester, clearing stored semaphore identifying data for said exclusive access requester (e.g., col. 12, lines 35-37).

Regarding claim 2, Moriarty also discloses wherein said step of writing a new semaphore value returns a result value indicative of whether or not said new semaphore value was written in said semaphore value store (e.g., col. 7, lines 52-55).

Regarding claim 3, Moriarty also discloses if a different exclusive access requester has written a new semaphore value to said semaphore value store between said step of retrieving and said step of writing, then said result value indicates that said write of a new semaphore value by said exclusive access requester has failed (e.g., col. 7, lines 52-55).

Regarding claim 4, Moriarty also discloses wherein said step of writing also checks said semaphore identifying data to determine whether or not said semaphore identifying data has been cleared between said step of retrieving and said step of writing (e.g., col. 10, lines 51-54).

Regarding claim 5, Moriarty also discloses if said semaphore identifying data has been cleared, then writing of said new semaphore value is not attempted (e.g., col. 12, lines 35-37).

Regarding claim 6, Moriarty also discloses wherein a plurality of data processors share said processing resource (e.g., col. 2, lines 13-16).

Regarding claim 7, Moriarty also discloses wherein said plurality of data processors share at least a common access point via which accesses to said processing resource are made (e.g., col. 2, lines 27-30).

Regarding claim 8, Moriarty also discloses wherein a local semaphore identifying data store is provided local to said exclusive access requester (e.g., col. 12, lines 25-30).

Regarding claim 9, Moriarty also discloses wherein a write attempt does not reach said common access point if said semaphore identifying value stored in said local semaphore identifying data store has been cleared (e.g., col. 10, lines 57-63).

Regarding claim 10, Moriarty also discloses wherein a shared semaphore identifying data store is provided local to said processing resource (e.g., col. 12, lines 25-30).

Regarding claim 11, Moriarty also discloses wherein multitasking processing is performed such that different processing tasks may act as different exclusive access requesters (e.g., col. 12, lines 25-30).

Regarding claim 12, Moriarty also discloses wherein said exclusive access clear instruction clears said local semaphore identifying data store, but not said shared semaphore identifying data store, and said semaphore identifying data within said local semaphore identifying data store is checked to determine whether or not said semaphore identifying data has been cleared between said step of retrieving and said step of writing (e.g., col. 12, lines 35-37).

Regarding claim 13, Moriarty also discloses wherein said processing resource is a data element stored within a data memory (e.g., col. 7, lines 29-30).

Regarding claim 15, Moriarty also discloses wherein said semaphore identifying data is data indicative of a memory address associated with said processing resource (e.g., col. 7, lines 29-30).

Regarding claim 16, Moriarty also discloses wherein said shared semaphore identifying data store stores data indicative of which processor is requesting exclusive access to said processing resource (e.g., col. 8, lines 52-54).

Regarding claim 17, Moriarty also discloses a computer program product carrying a computer program for controlling a data processing apparatus in accordance with the method of claims 1 (e.g., col. 2, lines 13-14).
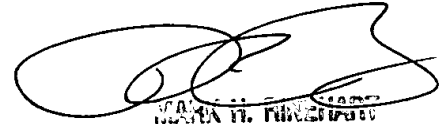

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Montgomery (US 6529933) discloses a semaphore system which includes storing and clearing stored semaphore identifying data (e.g., col. 5, lines 17-23).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Clifford H Knoll whose telephone number is 703-305-8656. The examiner can normally be reached on M-F 0630-1500.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Mark H Rinehart can be reached on 703-305-4815. The fax phone number

for the organization where this application or proceeding is assigned is 703-872-9306.

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you have questions on access to the Private PAIR system, contact the Electronic

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